

SEQUENCE LISTING

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 Blelloch, Robert H

<120> Agent and Method for Modulating Cell Migration

<130> 960296.95386

<140> 09/321,987
 <141> 1999-05-28

<150> 60/087,170
 <151> 1998-05-29

<150> 60/129,023
 <151> 1999-04-13

<160> 5

<170> PatentIn Ver. 2.1

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gca aaa gtt att ggt cac tgt ggt ggt ttt tgt gga aaa tgc tct cct Ala Lys Val Ile Gly His Cys Gly Gly Phe Cys Gly Lys Cys Ser Pro 2100 2105 2110	6336

gag cgg tac aaa gga cta atc ttt gaa gtt aat aca aaa tta tta aat 6384
 Glu Arg Tyr Lys Gly Leu Ile Phe Glu Val Asn Thr Lys Leu Leu Asn
 2115 2120 2125
 cat gtg aaa aat ggt gga cac att gat gat gaa ttg gat gat gat ggt 6432
 His Val Lys Asn Gly Gly His Ile Asp Asp Glu Leu Asp Asp Asp Gly
 2130 2135 2140
 ttc tct ggt gac atg gat taattttttc gatacctaaa agtgtcaaaa 6480
 Phe Ser Gly Asp Met Asp
 2145 2150
 tctcgtatga atctctactt ctctggtctc ttattttcaag tttttgattc ttttcttttt 6540
 ttttagttttt aatagcatta cttcgaattt attgtcattc cctcaatcac ctaacactag 6600
 gttttctaca tagtatgttc cttgaaaatg tttcatgatc aaagggttacg gtacttttg 6659

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 <211> 2150
 <212> PRT
 <213> Caenorhabditis elegans

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 Ala Leu Ile Leu Leu Val Val Cys Leu Val Tyr Ala Leu Gln Ser Gly
 20 25 30
 Ser Gly Thr Ile Ser Glu Phe Ser Ser Asp Val Leu Phe Ser Arg Ala
 35 40 45
 Lys Tyr Ser Gly Val Pro Val His His Ser Arg Trp Arg Gln Asp Ala
 50 55 60
 Gly Ile His Val Ile Asp Ser His His Ile Val Arg Arg Asp Ser Tyr
 65 70 75 80
 Gly Arg Arg Gly Lys Arg Asp Val Thr Ser Thr Asp Arg Arg Arg Arg
 85 90 95
 Leu Gln Gly Val Ala Arg Asp Cys Gly His Ala Cys His Leu Arg Leu
 100 105 110
 Arg Ser Asp Asp Ala Val Tyr Ile Val His Leu His Arg Trp Asn Gln
 115 120 125
 Ile Pro Asp Ser His Asn Lys Ser Val Pro His Phe Ser Asn Ser Asn
 130 135 140
 Phe Ala Pro Met Val Leu Tyr Leu Asp Ser Glu Glu Val Arg Gly
 145 150 155 160
 Gly Met Ser Arg Thr Asp Pro Asp Cys Ile Tyr Arg Ala His Val Lys
 165 170 175

Gly Val His Gln His Ser Ile Val Asn Leu Cys Asp Ser Glu Asp Gly
 180 185 190
 Leu Tyr Gly Met Leu Ala Leu Pro Ser Gly Ile His Thr Val Glu Pro
 195 200 205
 Ile Ile Ser Gly Asn Gly Thr Glu His Asp Gly Ala Ser Arg His Arg
 210 215 220
 Gln His Leu Val Arg Lys Phe Asp Pro Met His Phe Lys Ser Phe Asp
 225 230 235 240
 His Leu Asn Ser Thr Ser Val Asn Glu Thr Glu Thr Thr Val Ala Thr
 245 250 255
 Trp Gln Asp Gln Trp Glu Asp Val Ile Glu Arg Lys Ala Arg Ser Arg
 260 265 270
 Arg Ala Ala Asn Ser Trp Asp His Tyr Val Glu Val Leu Val Val Ala
 275 280 285
 Asp Thr Lys Met Tyr Glu Tyr His Gly Arg Ser Leu Glu Asp Tyr Val
 290 295 300
 Leu Thr Leu Phe Ser Thr Val Ala Ser Ile Tyr Arg His Gln Ser Leu
 305 310 315 320
 Arg Ala Ser Ile Asn Val Val Val Val Lys Leu Ile Val Leu Lys Thr
 325 330 335
 Glu Asn Ala Gly Pro Arg Ile Thr Gln Asn Ala Gln Gln Thr Leu Gln
 340 345 350
 Asp Phe Cys Arg Trp Gln Gln Tyr Tyr Asn Asp Pro Asp Asp Ser Ser
 355 360 365
 Val Gln His His Asp Val Ala Ile Leu Leu Thr Arg Lys Asp Ile Cys
 370 375 380
 Arg Ser Gln Gly Lys Cys Asp Thr Leu Gly Leu Ala Glu Leu Gly Thr
 385 390 395 400
 Met Cys Asp Met Gln Lys Ser Cys Ala Ile Ile Glu Asp Asn Gly Leu
 405 410 415
 Ser Ala Ala Phe Thr Ile Ala His Glu Leu Gly His Val Phe Ser Ile
 420 425 430
 Pro His Asp Asp Glu Arg Lys Cys Ser Thr Tyr Met Pro Val Asn Lys
 435 440 445
 Asn Asn Phe His Ile Met Ala Pro Thr Leu Glu Tyr Asn Thr His Pro
 450 455 460
 Trp Ser Trp Ser Pro Cys Ser Ala Gly Met Leu Glu Arg Phe Leu Glu
 465 470 475 480

Asn Asn Arg Gly Gln Thr Gln Cys Leu Phe Asp Gln Pro Val Glu Arg
 485 490 495
 Arg Tyr Tyr Glu Asp Val Phe Val Arg Asp Glu Pro Gly Lys Lys Tyr
 500 505 510
 Asp Ala His Gln Gln Cys Lys Phe Val Phe Gly Pro Ala Ser Glu Leu
 515 520 525
 Cys Pro Tyr Met Pro Thr Cys Arg Arg Leu Trp Cys Ala Thr Phe Tyr
 530 535 540
 Gly Ser Gln Met Gly Cys Arg Thr Gln His Met Pro Trp Ala Asp Gly
 545 550 555 560
 Thr Pro Cys Asp Glu Ser Arg Ser Met Phe Cys His His Gly Ala Cys
 565 570 575
 Val Arg Leu Ala Pro Glu Ser Leu Thr Lys Ile Asp Gly Gln Trp Gly
 580 585 590
 Asp Trp Arg Ser Trp Gly Glu Cys Ser Arg Thr Cys Gly Gly Gly Val
 595 600 605
 Gln Lys Gly Leu Arg Asp Cys Asp Ser Pro Lys Pro Arg Asn Gly Gly
 610 615 620
 Lys Tyr Cys Val Gly Gln Arg Glu Arg Tyr Arg Ser Cys Asn Thr Gln
 625 630 635 640
 Glu Cys Pro Trp Asp Thr Gln Pro Tyr Arg Glu Val Gln Cys Ser Glu
 645 650 655
 Phe Asn Asn Lys Asp Ile Gly Ile Gln Gly Val Ala Ser Thr Asn Thr
 660 665 670
 His Trp Val Pro Lys Tyr Ala Asn Val Ala Pro Asn Glu Arg Cys Lys
 675 680 685
 Leu Tyr Cys Arg Leu Ser Gly Ser Ala Ala Phe Tyr Leu Leu Arg Asp
 690 695 700
 Lys Val Val Asp Gly Thr Pro Cys Asp Arg Asn Gly Asp Asp Ile Cys
 705 710 715 720
 Val Ala Gly Ala Cys Met Pro Ala Gly Cys Asp His Gln Leu His Ser
 725 730 735
 Thr Leu Arg Arg Asp Lys Cys Gly Val Cys Gly Gly Asp Asp Ser Ser
 740 745 750
 Cys Lys Val Val Lys Gly Thr Phe Asn Glu Gln Gly Thr Phe Gly Tyr
 755 760 765
 Asn Glu Val Met Lys Ile Pro Ala Gly Ser Ala Asn Ile Asp Ile Arg
 770 775 780

Gln Lys Gly Tyr Asn Asn Met Lys Glu Asp Asp Asn Tyr Leu Ser Leu
 785 790 795 800
 Arg Ala Ala Asn Gly Glu Phe Leu Leu Asn Gly His Phe Gln Val Ser
 805 810 815
 Leu Ala Arg Gln Gln Ile Ala Phe Gln Asp Thr Val Leu Glu Tyr Ser
 820 825 830
 Gly Ser Asp Ala Ile Ile Glu Arg Ile Asn Gly Thr Gly Pro Ile Arg
 835 840 845
 Ser Asp Ile Tyr Val His Val Leu Ser Val Gly Ser His Pro Pro Asp
 850 855 860
 Ile Ser Tyr Glu Tyr Met Thr Ala Ala Val Pro Asn Ala Val Ile Arg
 865 870 875 880
 Pro Ile Ser Ser Ala Leu Tyr Leu Trp Arg Val Thr Asp Thr Trp Thr
 885 890 895
 Glu Cys Asp Arg Ala Cys Arg Gly Gln Gln Ser Gln Lys Leu Met Cys
 900 905 910
 Leu Asp Met Ser Thr His Arg Gln Ser His Asp Arg Asn Cys Gln Asn
 915 920 925
 Val Leu Lys Pro Lys Gln Ala Thr Arg Met Cys Asn Ile Asp Cys Ser
 930 935 940
 Thr Arg Trp Ile Thr Glu Asp Val Ser Ser Cys Ser Ala Lys Cys Gly
 945 950 955 960
 Ser Gly Gln Lys Arg Gln Arg Val Ser Cys Val Lys Met Glu Gly Asp
 965 970 975
 Arg Gln Thr Pro Ala Ser Glu His Leu Cys Asp Arg Asn Ser Lys Pro
 980 985 990
 Ser Asp Ile Ala Ser Cys Tyr Ile Asp Cys Ser Gly Arg Lys Trp Asn
 995 1000 1005
 Tyr Gly Glu Trp Thr Ser Cys Ser Glu Thr Cys Gly Ser Asn Gly Lys
 1010 1015 1020
 Met His Arg Lys Ser Tyr Cys Val Asp Asp Ser Asn Arg Arg Val Asp
 1025 1030 1035 1040
 Glu Ser Leu Cys Gly Arg Glu Gln Lys Glu Ala Thr Glu Arg Glu Cys
 1045 1050 1055
 Asn Arg Ile Pro Cys Pro Arg Trp Val Tyr Gly His Trp Ser Glu Cys
 1060 1065 1070
 Ser Arg Ser Cys Asp Gly Gly Val Lys Met Arg His Ala Gln Cys Leu
 1075 1080 1085

Asp Ala Ala Asp Arg Glu Thr His Thr Ser Arg Cys Gly Pro Ala Gln
 1090 1095 1100
 Thr Gln Glu His Cys Asn Glu His Ala Cys Thr Trp Trp Gln Phe Gly
 1105 1110 1115 1120
 Val Trp Ser Asp Cys Ser Ala Lys Cys Gly Asp Gly Val Gln Tyr Arg
 1125 1130 1135
 Asp Ala Asn Cys Thr Asp Arg His Arg Ser Val Leu Pro Glu His Arg
 1140 1145 1150
 Cys Leu Lys Met Glu Lys Ile Ile Thr Lys Pro Cys His Arg Glu Ser
 1155 1160 1165
 Cys Pro Lys Tyr Lys Leu Gly Glu Trp Ser Gln Cys Ser Val Ser Cys
 1170 1175 1180
 Glu Asp Gly Trp Ser Ser Arg Arg Val Ser Cys Val Ser Gly Asn Gly
 1185 1190 1195 1200
 Thr Glu Val Asp Met Ser Leu Cys Gly Thr Ala Ser Asp Arg Pro Ala
 1205 1210 1215
 Ser His Gln Thr Cys Asn Leu Gly Thr Cys Pro Phe Trp Arg Asn Thr
 1220 1225 1230
 Asp Trp Ser Ala Cys Ser Val Ser Cys Gly Ile Gly His Arg Glu Arg
 1235 1240 1245
 Thr Thr Glu Cys Ile Tyr Arg Glu Gln Ser Val Asp Ala Ser Phe Cys
 1250 1255 1260
 Gly Asp Thr Lys Met Pro Glu Thr Ser Gln Thr Cys His Leu Leu Pro
 1265 1270 1275 1280
 Cys Thr Ser Trp Lys Pro Ser His Trp Ser Pro Cys Ser Val Thr Cys
 1285 1290 1295
 Gly Ser Gly Ile Gln Thr Arg Ser Val Ser Cys Thr Arg Gly Ser Glu
 1300 1305 1310
 Gly Thr Ile Val Asp Glu Tyr Phe Cys Asp Arg Asn Thr Arg Pro Arg
 1315 1320 1325
 Leu Lys Lys Thr Cys Glu Lys Asp Thr Cys Asp Gly Pro Arg Val Leu
 1330 1335 1340
 Gln Lys Leu Gln Ala Asp Val Pro Pro Ile Arg Trp Ala Thr Gly Pro
 1345 1350 1355 1360
 Trp Thr Ala Cys Ser Ala Thr Cys Gly Asn Gly Thr Gln Arg Arg Leu
 1365 1370 1375
 Leu Lys Cys Arg Asp His Val Arg Asp Leu Pro Asp Glu Tyr Cys Asn
 1380 1385 1390

His Leu Asp Lys Glu Val Ser Thr Arg Asn Cys Arg Leu Arg Asp Cys
 1395 1400 1405
 Ser Tyr Trp Lys Met Ala Glu Trp Glu Glu Cys Pro Ala Thr Cys Gly
 1410 1415 1420
 Thr His Val Gln Gln Ser Arg Asn Val Thr Cys Val Ser Ala Glu Asp
 1425 1430 1435 1440
 Gly Gly Arg Thr Ile Leu Lys Asp Val Asp Cys Asp Val Gln Lys Arg
 1445 1450 1455
 Pro Thr Ser Ala Arg Asn Cys Arg Leu Glu Pro Cys Pro Lys Gly Glu
 1460 1465 1470
 Glu His Ile Gly Ser Trp Ile Ile Gly Asp Trp Ser Lys Cys Ser Ala
 1475 1480 1485
 Ser Cys Gly Gly Gly Trp Arg Arg Arg Ser Val Ser Cys Thr Ser Ser
 1490 1495 1500
 Ser Cys Asp Glu Thr Arg Lys Pro Lys Met Phe Asp Lys Cys Asn Glu
 1505 1510 1515 1520
 Glu Leu Cys Pro Pro Leu Thr Asn Asn Ser Trp Gln Ile Ser Pro Trp
 1525 1530 1535
 Thr His Cys Ser Val Ser Cys Gly Gly Gly Val Gln Arg Arg Lys Ile
 1540 1545 1550
 Trp Cys Glu Asp Val Leu Ser Gly Arg Lys Gln Asp Asp Ile Glu Cys
 1555 1560 1565
 Ser Glu Ile Lys Pro Arg Glu Gln Arg Asp Cys Glu Met Pro Pro Cys
 1570 1575 1580
 Arg Ser His Tyr His Asn Lys Thr Ser Ser Ala Ser Met Thr Ser Leu
 1585 1590 1595 1600
 Ser Ser Ser Asn Ser Asn Thr Thr Ser Ser Ala Ser Ala Ser Ser Leu
 1605 1610 1615
 Pro Ile Leu Pro Pro Val Val Ser Trp Gln Thr Ser Ala Trp Ser Ala
 1620 1625 1630
 Cys Ser Ala Lys Cys Gly Arg Gly Thr Lys Arg Arg Val Val Glu Cys
 1635 1640 1645
 Val Asn Pro Ser Leu Asn Val Thr Val Ala Ser Thr Glu Cys Asp Gln
 1650 1655 1660
 Thr Lys Lys Pro Val Glu Glu Val Arg Cys Arg Thr Lys His Cys Pro
 1665 1670 1675 1680
 Arg Trp Lys Thr Thr Thr Trp Ser Ser Cys Ser Val Thr Cys Gly Arg
 1685 1690 1695

Gly Ile Arg Arg Arg Glu Val Gln Cys Tyr Arg Gly Arg Lys Asn Leu
 1700 1705 1710
 Val Ser Asp Ser Glu Cys Asn Pro Lys Thr Lys Leu Asn Ser Val Ala
 1715 1720 1725
 Asn Cys Phe Pro Val Ala Cys Pro Ala Tyr Arg Trp Asn Val Thr Pro
 1730 1735 1740
 Trp Ser Lys Cys Lys Asp Glu Cys Ala Arg Gly Gln Lys Gln Thr Arg
 1745 1750 1755 1760
 Arg Val His Cys Ile Ser Thr Ser Gly Lys Arg Ala Ala Pro Arg Met
 1765 1770 1775
 Cys Glu Leu Ala Arg Ala Pro Thr Ser Ile Arg Glu Cys Asp Thr Ser
 1780 1785 1790
 Asn Cys Pro Tyr Glu Trp Val Pro Gly Asp Trp Gln Thr Cys Ser Lys
 1795 1800 1805
 Ser Cys Gly Glu Gly Val Gln Thr Arg Glu Val Arg Cys Arg Arg Lys
 1810 1815 1820
 Ile Asn Phe Asn Ser Thr Ile Pro Ile Ile Phe Met Leu Glu Asp Glu
 1825 1830 1835 1840
 Pro Ala Val Pro Lys Glu Lys Cys Glu Leu Phe Pro Lys Pro Asn Glu
 1845 1850 1855
 Ser Gln Thr Cys Glu Leu Asn Pro Cys Asp Ser Glu Phe Lys Trp Ser
 1860 1865 1870
 Phe Gly Pro Trp Gly Glu Cys Ser Lys Asn Cys Gly Gln Gly Ile Arg
 1875 1880 1885
 Arg Arg Arg Val Lys Cys Val Ala Asn Asp Gly Arg Arg Val Glu Arg
 1890 1895 1900
 Val Lys Cys Thr Thr Lys Lys Pro Arg Arg Thr Gln Tyr Cys Phe Glu
 1905 1910 1915 1920
 Arg Asn Cys Leu Pro Ser Thr Cys Gln Glu Leu Lys Ser Gln Asn Val
 1925 1930 1935
 Lys Ala Lys Asp Gly Asn Tyr Thr Ile Leu Leu Asp Gly Phe Thr Ile
 1940 1945 1950
 Glu Ile Tyr Cys His Arg Met Asn Ser Thr Ile Pro Lys Ala Tyr Leu
 1955 1960 1965
 Asn Val Asn Pro Arg Thr Asn Phe Ala Glu Val Tyr Gly Lys Lys Leu
 1970 1975 1980
 Ile Tyr Pro His Thr Cys Pro Phe Asn Gly Asp Arg Asn Asp Ser Cys
 1985 1990 1995 2000

<220>
<221> VARIANT
<222> (23)..(25)
<223> Can be any amino acid.

<220>
<221> VARIANT
<222> (27)..(29)
<223> Can be any amino acid.

<220>
<221> VARIANT
<222> (31)..(57)
<223> Can be any amino acid; can have as few as 4 or as many as 27 amino acids.

<220>
<221> VARIANT
<222> (59)..(70)
<223> Can be any amino acid; can have as few as 8 or as many as 12 amino acids.

<220>
<221> VARIANT
<222> (72)..(75)
<223> Can be any amino acid; can have only 3 instead of 4 amino acids.

<220>
<223> Description of Artificial Sequence: consensus sequence for TSPT1-like repeats

<220>
<221> VARIANT
<222> (21)
<223> Can be any amino acid.

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Xaa Xaa Xaa Xaa Xaa Gly Xaa Xaa Xaa Arg Xaa Xaa Xaa Cys Xaa Xaa
20 25 30
Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
35 40 45
Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa
50 55 60
Xaa Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Cys
65 70 75

<210> 4
<211> 950
<212> PRT
<213> Murine

<400> 4
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 35 40 45
 Pro Ser Leu Glu Arg Ala Pro Gly His Asp Ser Thr Thr Thr Arg Leu
 50 55 60
 Arg Leu Asp Ala Phe Gly Gln Gln Leu His Leu Lys Leu Gln Pro Asp
 65 70 75 80
 Ser Gly Phe Leu Ala Pro Gly Phe Thr Leu Gln Thr Val Gly Arg Ser
 85 90 95
 Pro Gly Ser Glu Ala Gln His Leu Asp Pro Thr Gly Asp Leu Ala His
 100 105 110
 Cys Phe Tyr Ser Gly Thr Val Asn Gly Asp Pro Gly Ser Ala Ala Ala
 115 120 125
 Leu Ser Leu Cys Glu Gly Val Arg Gly Ala Phe Tyr Leu Gln Gly Glu
 130 135 140
 Glu Phe Phe Ile Gln Pro Ala Pro Gly Val Ala Thr Glu Arg Leu Ala
 145 150 155 160
 Pro Ala Val Pro Glu Glu Glu Ser Ser Ala Arg Pro Gln Phe His Ile
 165 170 175
 Leu Arg Arg Arg Arg Arg Gly Ser Gly Gly Ala Lys Cys Gly Val Met
 180 185 190
 Asp Asp Glu Thr Leu Pro Thr Ser Asp Ser Arg Pro Glu Ser Gln Asn
 195 200 205
 Thr Arg Asn Gln Trp Pro Val Arg Asp Pro Thr Pro Gln Asp Ala Gly
 210 215 220
 Lys Pro Ser Gly Pro Gly Ser Ile Arg Lys Lys Arg Phe Val Ser Ser
 225 230 235 240
 Pro Arg Tyr Val Glu Thr Met Leu Val Ala Asp Gln Ser Met Ala Asp
 245 250 255
 Phe His Gly Ser Gly Leu Lys His Tyr Leu Leu Thr Leu Phe Ser Val
 260 265 270
 Ala Ala Arg Phe Tyr Lys His Pro Ser Ile Arg Asn Ser Ile Ser Leu
 275 280 285
 Val Val Val Lys Ile Leu Val Ile Tyr Glu Glu Gln Lys Gly Pro Glu
 290 295 300

Val Thr Ser Asn Ala Ala Leu Thr Leu Arg Asn Phe Cys Asn Trp Gln
 305 310 315 320
 Lys Gln His Asn Ser Pro Ser Asp Arg Asp Pro Glu His Tyr Asp Thr
 325 330 335
 Ala Ile Leu Phe Thr Arg Gln Asp Leu Cys Gly Ser His Thr Cys Asp
 340 345 350
 Thr Leu Gly Met Ala Asp Val Gly Thr Val Cys Asp Pro Ser Arg Ser
 355 360 365
 Cys Ser Val Ile Glu Asp Asp Gly Leu Gln Ala Ala Phe Thr Thr Ala
 370 375 380
 His Glu Leu Gly His Val Phe Asn Met Pro His Asp Asp Ala Lys His
 385 390 395 400
 Cys Ala Ser Leu Asn Gly Val Thr Gly Asp Ser His Leu Met Ala Ser
 405 410 415
 Met Leu Ser Ser Leu Asp His Ser Gln Pro Trp Ser Pro Cys Ser Ala
 420 425 430
 Tyr Met Val Thr Ser Phe Leu Asp Asn Gly His Gly Glu Cys Leu Met
 435 440 445
 Asp Lys Pro Gln Asn Pro Ile Lys Leu Pro Ser Asp Leu Pro Gly Thr
 450 455 460
 Leu Tyr Asp Ala Asn Arg Gln Cys Gln Phe Thr Phe Gly Glu Glu Ser
 465 470 475 480
 Lys His Cys Pro Asp Ala Ala Ser Thr Cys Thr Thr Leu Trp Cys Thr
 485 490 495
 Gly Thr Ser Gly Gly Leu Leu Val Cys Gln Thr Lys His Phe Pro Trp
 500 505 510
 Ala Asp Gly Thr Ser Cys Gly Glu Gly Lys Trp Cys Val Ser Gly Lys
 515 520 525
 Cys Val Asn Lys Thr Asp Met Lys His Phe Ala Thr Pro Val His Gly
 530 535 540
 Ser Trp Gly Pro Trp Gly Pro Trp Gly Asp Cys Ser Arg Thr Cys Gly
 545 550 555 560
 Gly Gly Val Gln Tyr Thr Met Arg Glu Cys Asp Asn Pro Val Pro Lys
 565 570 575
 Asn Gly Gly Lys Tyr Cys Glu Gly Lys Arg Val Arg Tyr Arg Ser Cys
 580 585 590
 Asn Ile Glu Asp Cys Pro Asp Asn Asn Gly Lys Thr Phe Arg Glu Glu
 595 600 605

Gln Cys Glu Ala His Asn Glu Phe Ser Lys Ala Ser Phe Gly Asn Glu
 610 615 620
 Pro Thr Val Glu Trp Thr Pro Lys Tyr Ala Gly Val Ser Pro Lys Asp
 625 630 635 640
 Arg Cys Lys Leu Thr Cys Glu Ala Lys Gly Ile Gly Tyr Phe Phe Val
 645 650 655
 Leu Gln Pro Lys Val Val Asp Gly Thr Pro Cys Ser Pro Asp Ser Thr
 660 665 670
 Ser Val Cys Val Gln Gly Gln Cys Val Lys Ala Gly Cys Asp Arg Ile
 675 680 685
 Ile Asp Ser Lys Lys Lys Phe Asp Lys Cys Gly Val Cys Gly Gly Asn
 690 695 700
 Gly Ser Thr Cys Lys Lys Met Ser Gly Ile Val Thr Ser Thr Arg Pro
 705 710 715 720
 Gly Tyr His Asp Ile Val Thr Ile Pro Ala Gly Ala Thr Asn Ile Glu
 725 730 735
 Val Lys His Arg Asn Gln Arg Gly Ser Arg Asn Asn Gly Ser Phe Leu
 740 745 750
 Ala Ile Arg Ala Ala Asp Gly Thr Tyr Ile Leu Asn Gly Asn Phe Thr
 755 760 765
 Leu Ser Thr Leu Glu Gln Asp Leu Thr Tyr Lys Gly Thr Val Leu Arg
 770 775 780
 Tyr Ser Gly Ser Ser Ala Ala Leu Glu Arg Ile Arg Ser Phe Ser Pro
 785 790 795 800
 Leu Lys Glu Pro Leu Thr Ile Gln Val Leu Met Val Gly His Ala Leu
 805 810 815
 Arg Pro Lys Ile Lys Phe Thr Tyr Phe Met Lys Lys Lys Thr Glu Ser
 820 825 830
 Phe Asn Ala Ile Pro Thr Phe Ser Glu Trp Val Ile Glu Glu Trp Gly
 835 840 845
 Glu Cys Ser Lys Thr Cys Gly Ser Gly Trp Gln Arg Arg Val Val Gln
 850 855 860
 Cys Arg Asp Ile Asn Gly His Pro Ala Ser Glu Cys Ala Lys Glu Val
 865 870 875 880
 Lys Pro Ala Ser Thr Arg Pro Cys Ala Asp Leu Pro Cys Pro His Trp
 885 890 895
 Gln Val Gly Asp Trp Ser Pro Cys Ser Lys Thr Cys Gly Lys Gly Tyr
 900 905 910

Lys Lys Arg Thr Leu Lys Cys Val Ser His Asp Gly Gly Val Leu Ser
915 920 925

Asn Glu Ser Cys Asp Pro Leu Lys Lys Pro Lys His Tyr Ile Asp Phe
930 935 940

Cys Thr Leu Thr Gln Cys
945 950

<210> 5
<211> 969
<212> PRT
<213> Bovine

<400> 5
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Ala Ala Ala Asp Pro Pro Gly Gly Pro Gln Gly His Gly Ala Glu Arg
35 40 45

Ile Leu Ala Val Pro Val Arg Thr Asp Ala Gln Gly Arg Leu Val Ser
50 55 60

His Val Val Ser Ala Ala Thr Ala Pro Ala Gly Val Arg Thr Arg Arg
65 70 75 80

Ala Ala Pro Ala Gln Ile Pro Gly Leu Ser Gly Gly Ser Glu Glu Asp
85 90 95

Pro Gly Gly Arg Leu Phe Tyr Asn Val Thr Val Phe Gly Arg Asp Leu
100 105 110

His Leu Arg Leu Arg Pro Asn Ala Arg Leu Val Ala Pro Gly Ala Thr
115 120 125

Val Glu Trp Gln Gly Glu Ser Gly Ala Thr Arg Val Glu Pro Leu Leu
130 135 140

Gly Thr Cys Leu Tyr Val Gly Asp Val Ala Gly Leu Ala Glu Ser Ser
145 150 155 160

Ser Val Ala Leu Ser Asn Cys Asp Gly Leu Ala Gly Leu Ile Arg Met
165 170 175

Glu Glu Glu Glu Phe Phe Ile Glu Pro Leu Glu Lys Gly Leu Ala Ala
180 185 190

Lys Glu Ala Glu Gln Gly Arg Val His Val Val Tyr His Arg Pro Thr
195 200 205

Thr Ser Arg Pro Pro Pro Leu Gly Gly Pro Gln Ala Leu Asp Thr Gly
210 215 220

Ile Ser Ala Asp Ser Leu Asp Ser Leu Ser Arg Ala Leu Gly Val Leu
 225 230 235 240
 Glu Glu Arg Val Asn Ser Ser Arg Arg Arg Met Arg Arg His Ala Ala
 245 250 255
 Asp Asp Asp Tyr Asn Ile Glu Val Leu Leu Gly Val Asp Asp Ser Val
 260 265 270
 Val Gln Phe His Gly Thr Glu His Val Gln Lys Tyr Leu Leu Thr Leu
 275 280 285
 Met Asn Ile Val Asn Glu Ile Tyr His Asp Glu Ser Leu Gly Ala His
 290 295 300
 Ile Asn Val Val Leu Val Arg Ile Ile Leu Leu Ser Tyr Gly Lys Ser
 305 310 315 320
 Met Ser Leu Ile Glu Ile Gly Asn Pro Ser Gln Ser Leu Glu Asn Val
 325 330 335
 Cys Arg Trp Ala Tyr Leu Gln Gln Lys Pro Asp Thr Asp His Asp Glu
 340 345 350
 Tyr His Asp His Ala Ile Phe Leu Thr Arg Gln Asp Phe Gly Pro Ser
 355 360 365
 Gly Met Gln Gly Tyr Ala Pro Val Thr Gly Met Cys His Pro Val Arg
 370 375 380
 Ser Cys Thr Leu Asn His Glu Asp Gly Phe Ser Ser Ala Phe Val Val
 385 390 395 400
 Ala His Glu Thr Gly His Val Leu Gly Met Glu His Asp Gly Gln Gly
 405 410 415
 Asn Arg Cys Gly Asp Glu Val Arg Leu Gly Ser Ile Met Ala Pro Leu
 420 425 430
 Val Gln Ala Ala Phe His Arg Phe His Trp Ser Arg Cys Ser Gln Gln
 435 440 445
 Glu Leu Ser Arg Tyr Leu His Ser Tyr Asp Cys Leu Arg Asp Asp Pro
 450 455 460
 Phe Thr His Asp Trp Pro Ala Leu Pro Gln Leu Pro Gly Leu His Tyr
 465 470 475 480
 Ser Met Asn Glu Gln Cys Arg Phe Asp Phe Gly Leu Gly Tyr Met Met
 485 490 495
 Cys Thr Ala Phe Arg Thr Phe Asp Pro Cys Lys Gln Leu Trp Cys Ser
 500 505 510
 His Pro Asp Asn Pro Tyr Phe Cys Lys Thr Lys Lys Gly Pro Pro Leu
 515 520 525

Asp Gly Thr Met Cys Ala Pro Gly Lys His Cys Phe Lys Gly His Cys
 530 535 540
 Ile Trp Leu Thr Pro Asp Ile Leu Lys Arg Asp Gly Asn Trp Gly Ala
 545 550 555 560
 Trp Ser Pro Phe Gly Ser Cys Ser Arg Thr Cys Gly Thr Gly Val Lys
 565 570 575
 Phe Arg Thr Arg Gln Cys Asp Asn Pro His Pro Ala Asn Gly Gly Arg
 580 585 590
 Thr Cys Ser Gly Leu Ala Tyr Asp Phe Gln Leu Cys Asn Ser Gln Asp
 595 600 605
 Cys Pro Asp Ala Leu Ala Asp Phe Arg Glu Glu Gln Cys Arg Gln Trp
 610 615 620
 Asp Leu Tyr Phe Glu His Gly Asp Ala Gln His His Trp Leu Pro His
 625 630 635 640
 Glu His Arg Asp Ala Lys Glu Arg Cys His Leu Tyr Cys Glu Ser Lys
 645 650 655
 Glu Thr Gly Glu Val Val Ser Met Lys Arg Met Val His Asp Gly Thr
 660 665 670
 Arg Cys Ser Tyr Lys Asp Ala Phe Ser Leu Cys Val Arg Gly Asp Cys
 675 680 685
 Arg Lys Val Gly Cys Asp Gly Val Ile Gly Ser Ser Lys Gln Glu Asp
 690 695 700
 Lys Cys Gly Val Cys Gly Gly Asp Asn Ser His Cys Lys Val Val Lys
 705 710 715 720
 Gly Thr Phe Ser Arg Ser Pro Lys Lys Leu Gly Tyr Ile Lys Met Phe
 725 730 735
 Glu Ile Pro Ala Gly Ala Arg His Leu Leu Ile Gln Glu Ala Asp Thr
 740 745 750
 Thr Ser His His Leu Ala Val Lys Asn Leu Glu Thr Gly Lys Phe Ile
 755 760 765
 Leu Asn Glu Glu Asn Asp Val Asp Pro Asn Ser Lys Thr Phe Ile Ala
 770 775 780
 Met Gly Val Glu Trp Glu Tyr Arg Asp Glu Asp Gly Arg Glu Thr Leu
 785 790 795 800
 Gln Thr Met Gly Pro Leu His Gly Thr Ile Thr Val Leu Val Ile Pro
 805 810 815
 Glu Gly Asp Ala Arg Ile Ser Leu Thr Tyr Lys Tyr Met Ile His Glu
 820 825 830

Asp Ser Leu Asn Val Asp Asp Asn Asn Val Leu Glu Asp Asp Ser Val
 835 840 845
 Gly Tyr Glu Trp Ala Leu Lys Lys Trp Ser Pro Cys Ser Lys Pro Cys
 850 855 860
 Gly Gly Gly Ser Gln Phe Thr Lys Tyr Gly Cys Arg Arg Arg Leu Asp
 865 870 875 880
 His Lys Met Val His Arg Gly Phe Cys Asp Ser Val Ser Lys Pro Lys
 885 890 895
 Ala Ile Arg Arg Thr Cys Asn Pro Gln Glu Cys Ser Gln Pro Val Trp
 900 905 910
 Val Thr Gly Glu Trp Glu Pro Cys Ser Arg Ser Cys Gly Arg Thr Gly
 915 920 925
 Met Gln Val Arg Ser Val Arg Cys Val Gln Pro Leu His Asn Asn Thr
 930 935 940
 Thr Arg Ser Val His Thr Lys His Cys Asn Asp Ala Arg Pro Glu Gly
 945 950 955 960
 Arg Arg Ala Cys Asn Arg Glu Leu Cys
 965